BIOFRUITNET
Boosting Innovation in ORGANIC FRUIT production through stronger networks

föko
Fördergemeinschaft Ökologischer Obstbau e.V.

PRACTICE ABSTRACT

Insect boxes in organic orchards: Caution on ready-to-use solutions!

Problem

Pome fruit trees are cross-pollinators – they rely on different insects like bees, flies and butterflies for pollination. Honeybees are commonly used, but they rely on good weather for flight.

Solution

Different nesting boxes for wild bees or lacewing flies can be installed to raise biodiversity and support pollination by further insects in the orchard.

Benefits

Nesting boxes also raise the population of some insect species, contributing to pest management, e.g., lacewing flies and hoverfly larvae feed predatorily.

Applicability box

Theme

Crop production, Horticulture, Temperate fruits

Keywords

Plant protection; Pest control; Biological pest control; Apple; Pear

Context

Central Europe

Period of impact

March-October

Equipment

Different types of nest boxes, fixing material

Best in

All orchards

Practical recommendation

INSTALLATION OF NESTING OFFERS:

- Set up insect nesting offers/boxes in early spring, before the beginning of flight (wild bee boxes, lacewing fly boxes, etc.), protected from rain.
- Align nesting boxes to the south or southeast (with lower solar radiation)
- For protection from birds, a wire mesh can be attached at a sufficient distance.
- Ensure easy access to nesting offers; they should not be covered by branches or leaves.
- Implement or promote flower strips in the tree row or tramline, tall herbaceous borders along edge structures, design irrigation ponds naturally with low water zones, etc. These measures offer food and nesting sites for a wide variety of insects.

INSECT NESTING AIDS - WHAT SHOULD BE CONSIDERED?

Many insect nesting aids offered on the market are not suitable for practical use; they often can do more harm than good, therefore pay attention to the suitable material:

- Avoid unclean, frayed holes in the wood: this causes a risk of injury
- Pinecones, snail shells, straw and bark are of no use to wild bees and other insects of interest in the orchard.
- Reed stalks should have a clean-cut edge: otherwise, there is a risk of destruction of wings
- Hollow bricks not often get colonized, only in exceptional cases
- Large boreholes > 10mm are usually not accepted
- Pithy stems (blackberry stems): attach them individually and vertically to the scaffold for the highest colonisation rate
- Avoid the use of cultivated bumblebees: there is a great risk of disease transmission to wild bumblebees

→ Many cultivated bumblebees (imported from Turkey and other countries) compete with native species.

Picture 1: Lacewing box; 2, 3, 4: Wild Bee box. Photos: ÖON.

Further reading

- Otterstatter, M. C., Thomson, J. D. 2008. Does Pathogen Spillover from Commercially Reared Bumble Bees Threaten Wild Pollinators?

Weblinks

- Staatsministerium für Umwelt und Landwirtschaft des Freistaats Sachsen 2015. Nützlinge in Obstanlagen und Gärten. 8. Auflage. (DE)
- Die Besiedelung von Nistkästen und die Biologie der Nutzvögel im Obstbau. (DE)
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About this practice abstract

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